

July 2015

## Cherokee County

### Estimated Economic Impact of Agriculture, Food, and Food Processing Sectors

A total of 16 agriculture, food, and food processing sectors were analyzed to determine their overall contribution to the Cherokee County economy.<sup>1</sup> These 16 sectors have a total direct output of approximately \$215 million and support 890.5 jobs in Cherokee County. Running the model for all 16 sectors simultaneously produces the following results:

**Agriculture Contribution in Cherokee County**

Impact Type <sup>2</sup>	Employment	% of Total Employment	Total Value Added <sup>3</sup>	% of Gross Regional Product <sup>4</sup>	Output <sup>5</sup>	% of Gross Regional Product
Direct Effect	890.5	7%	\$88,373,217	10%	\$214,881,980	25%
Indirect Effect	217.2	2%	\$15,617,150	2%	\$28,219,035	3%
Induced Effect	156.6	1%	\$10,451,266	1%	\$18,558,722	2%
Total Effect	1,264.3	10%	\$114,441,632	14%	\$261,659,738	31%

As shown in the above table, agriculture, food, and food processing supports 1,264.3 jobs, or 10% of the entire workforce in the county. These industries provide a total economic contribution of approximately \$262 million, roughly 31% of Gross Region Product (GRP). As noted below in the calculation of Gross Regional Product, imports and institutional sales are subtracted. Therefore, counties that import a relatively large amount of goods and services will have a reduced GRP which may lead to agricultural output being greater than GRP.

Another metric used to calculate the importance of sectors in an economy is their value added as a percentage of GRP. Total value added by the 16 agriculture, food, and food processing sectors is approximately \$114 million, or 14% of the GRP. This indicates that personal income, business income, and taxes generated by these sectors account for 14% of the total economy.

The following tables document the overall summary numbers of the model, top industries affected by employment and output, and a listing of all industries that were analyzed.

<sup>1</sup> Article on building a contribution analysis in IMPLAN that avoids double counting:  
[https://implan.com/index.php?option=com\\_content&view=category&id=19](https://implan.com/index.php?option=com_content&view=category&id=19)

<sup>2</sup> Direct, indirect, and induced effects sum together to estimate the total economic contribution in the state. **Direct effects** capture the contribution from agricultural and food products. **Indirect effects** capture the economic benefit from farms and agricultural businesses purchasing inputs from supporting industries within the state. **Induced effects** capture the benefits created when employees of farms, agricultural businesses, and the supporting industries spend their wages on goods and services within the state.

<sup>3</sup> Value Added = Labor Income + Indirect Business Taxes + Other Property Type Income

<sup>4</sup> GRP = Final Demand of Households + Governments Expenditures + Capital + Exports - Imports - Institutional Sales

<sup>5</sup> Output = Intermediate Inputs + Value Added

In the top ten by employment, Animal production, except cattle and poultry and eggs is the top employer in the agriculture industry with 286.9 employees. This table also shows the amount of jobs that are created by the agriculture industry in Cherokee County.

#### Top 10 Industries Affected by Employment

Sector Description:	Total Employment	Total Output
Animal production, except cattle and poultry and eggs.....	286.9	\$22,543,122
Beef cattle ranching and farming, including feedlots and dual-purpose ranching and farming .....	163.6	\$32,883,382
Grain farming .....	147.8	\$40,147,301
All other crop farming.....	77.5	\$7,630,570
Veterinary services .....	70.0	\$3,476,321
Real estate.....	51.1	\$7,856,439
Pesticide and other agricultural chemical manufacturing .....	36.3	\$54,357,333
Landscape and horticultural services .....	32.6	\$1,607,115
Support activities for agriculture and forestry .....	31.1	\$1,960,245
Oilseed farming .....	21.3	\$35,756,587

The Pesticide and other agricultural chemical manufacturing industry directly contributes approximately \$54 million to Cherokee County's economy. This table also shows how much revenue is generated in other industries by having a strong agriculture industry.

#### Top 10 Industries Affected by Output

Sector Description:	Total Employment	Total Output
Pesticide and other agricultural chemical manufacturing.....	36.3	\$54,357,333
Grain farming .....	147.8	\$40,147,301
Oilseed farming .....	21.3	\$35,756,587
Beef cattle ranching and farming, including feedlots and dual-purpose ranching and farming .....	163.6	\$32,883,382
Animal production, except cattle and poultry and eggs.....	286.9	\$22,543,122
Real estate.....	51.1	\$7,856,439
All other crop farming.....	77.5	\$7,630,570
Poultry and egg production .....	19.0	\$7,295,203
Wholesale trade.....	20.7	\$4,139,780
Owner-occupied dwellings .....	0.0	\$3,792,188

Below is a summary of all agriculture data with employment levels and output level. These values can tell how many jobs are represented by each agriculture sector and the output they contributed to Cherokee County's economy.

[illegible]

All 105 counties in Kansas have IMPLAN models with an agriculture contribution summary. These values do not factor in the retail environment of food sales. Food retail is important, but in order to provide the most accurate picture of what production agricultural and processing contributes to Kansas, the retail sector was omitted.